

MAN TRUCK & BUS AG

EXECUTIVE ORDER U-R-067-0005 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the California Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2018	JMNBL12.4OR4	12.4	Diesel	8,000		
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION			
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst			Loader, Tractor, Harvester, Agricultural Equipment, Construction Equipment			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxidnes of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)				OPACITY (%)			
POWER			NMHC	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
400 - 1111 - 500	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
130 ≤ kW ≤ 560		CERT	0.06	0.37		0.1	0.02			

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this

day of January 2018.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

Attachment !!

U-R-067-0005 5-18-2018

Engine Model Summary Template

Engine Family	1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate mm/stroke@peak HP (for diesel only)	5. Fuel Rate (lbs/hr)@peak HP (for diesel only)	6. Torque @ RPM (SAE Gross)	7. Fuel Rate mm/stroke @ peak torque	8. Fuel Rate (lbs/hr) @ peak torque	9. Emission Control Device Per SAE J1930
JMNBL12.4OR4	D2676-R02	LE137	404 kW @	292	175.7	2520 Nm @	342	150.1	ECM, DI, TC, CAC
			1850 RPM			1350 RPM			EGR, SCR-U, AMOX
JMNBL12.4OR4	D2676-R02	LE521	383 kW @	266	169.1	2420 Nm @	325	142.9	ECM, DI, TC, CAC
			1950 RPM			1350 RPM			EGR, SCR-U, AMOX
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JMNBL12.4OR4	D2676-R02	L E52 2	353 kW @	246	155.9	2305 Nm @	307	130.1	ECM, DI, TC, CAC
			1950 RPM			1300 RPM			EGR, SCR-U, AMOX
JMNBL12.4OR4	D2676-R02	LE523	323 kW @	225	142.9	2108 Nm @	283	115.3	ECM, DI, TC, CAC
			1950 RPM			1250 RPM			EGR, SCR-U, AMOX
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JMNBL12.4OR4	D2676-R02	LE524	294 kW @	208	131.8	1916 Nm @	258	104.9	ECM, DI, TC, CAC
			1950 RPM			1250 RPM			EGR, SCR-U, AMOX
JMNBL12.4OR4	D2676-R02	LE147	373 kW @	251	159.3	2520 Nm @	306	129.6	ECM, DI, TC, CAC
			1950 RPM			1300 RPM			EGR, SCR-U, AMOX

radded per R/C